

Water Plant Operator (2911, 2912, 2913)

Primary Reason Why Classification Exists

To perform technical and skilled manual work in the operation and maintenance of a municipal water treatment plant

Distinguishing Features of the Class

An employee in this class is responsible for monitoring and treating the city's drinking water and water supply in the water treatment plant. Emphasis of the work is on performing routine tests to ensure optimum quality of water and efficient operation of the plant. Work includes conducting hourly rounds of the plant, maintaining records, performing tests on water and plant systems, adding required chemicals to water, troubleshooting mechanical problems, assisting customers, and performing related duties. Work of the water plant operator is differentiated by the level of state certification (C is lowest and A is highest), length of experience and broader knowledge and responsibilities of plant operations, and ability to lead and train other plant personnel. Work is performed under the supervision of a Chief Water Plant Operator or Water Plant Superintendent and is evaluated for quality of water produced, accuracy in tests performed, documentation of records, and efficient plant operations.

Illustrative Examples of Work

- Makes hourly tours of plant to inspect operations; reads and documents gauge and meter readings and calibrations; adjusts chemical feed rates of equipment; ensures meters and pumps are functioning properly
- Collects water samples and performs tests; inspects water plant equipment and biological and chemical systems for proper operation; reports needs for equipment repairs
- Performs test on filtered water to determine excess color and records results; conducts tests for turbidity in raw, settled, and filtered water, chlorine residuals in filtered water, alkalinity levels in raw and filtered water, and records all results; calibrates fluoride meter and tests fluoride residual in raw and filtered water and records results
- Performs tests for coagulation, PH levels, and alkalinity; determines optimal chemical dosages; performs tests for titrations, Baume levels, settleable solids, specific gravity, water hardness, carbon dioxide levels, dissolved oxygen, chloride, coliform, alum percentage, caustic percentage, fluoride level, carbon, chlorine, and colorimetric tests
- Backwashes and rewashes filters using a backwash pump and fills feeder hoppers
- Checks levels of alum, caustic fluoride, corrosion inhibitor, carbon, coagulant aid, and other chemicals and adds chemicals as needed
- Replaces chlorine cylinders and regulates the flow of chlorine; calculates chemical dosage, average readings, and plant performance and records in log book
- Performs routine preventative maintenance and repairs to pumps, motors, and other mechanical equipment; reports equipment failures to supervisor for replacement
- Performs associated work such as bulk chemical handling, grounds keeping, and housekeeping duties
- Participates in classroom and on-the-job training to ensure knowledge level and eligibility for certification renewal is maintained

- Provides information to citizens, vendors, or others who may need assistance with water plant operations
- Performs related tasks as required

Knowledge, Skills, and Abilities

- Knowledge of the operating characteristics and maintenance requirements of a water treatment plant
- Knowledge of state and federal water treatment and water quality regulations
- Knowledge of the occupational hazards of the work and necessary safety precautions
- Ability to make decisions about water quality and water supply in the absence of a supervisor
- Ability to detect problems in the operation of mechanical equipment and report those problems to a supervisor or the appropriate employee
- Ability to conduct routine water quality tests and read meters and charts accurately, and record results
- Ability to perform environmental science calculations and to keep detailed records
- Ability to receive and carry out instructions provided by a supervisor

Physical Requirements

This is heavy work requiring the exertion of 100 pounds of force occasionally, up to 50 pounds of force frequently, and up to 20 pounds of force constantly to move objects. Work requires climbing, balancing, stooping, crouching, reaching, walking, pushing, pulling, lifting, grasping, and repetitive motions. Vocal communication is required to express or exchange ideas. Hearing is required to perceive information at normal spoken word levels. Visual acuity is required for visual inspection involving small defects and/or small parts, use of measuring or testing devices, assembly of equipment, operating plant equipment including motor vehicles, determining the accuracy and thoroughness of work performed, and observing general surroundings and activities

Working Conditions

Work occurs in both inside and outside environmental conditions including extreme heat and cold. Employee is subject to the noise from motors and pumps in a water plant which may require the worker to shout to be heard above the ambient noise level. Employee is subject to vibration such as oscillating movements of the extremities or whole body. Employee is subject to hazards including exposure to mechanical equipment and atmospheric conditions from exposure to fumes, odors, dusts, and oils. Employee may be required to wear a respirator. Employee may also work in close quarters, crawl spaces, shafts, small enclosed rooms, and other areas which could cause claustrophobia.

Education and Experience

Minimum education qualification for all levels is graduation from high school or GED equivalency.

- **Water Plant Operator (C)** - some experience with basic laboratory bench work; prior experience in a water treatment facility is desired. Must have a North Carolina certificate

at the Surface Water Operator “C” level or ability to obtain within one year of employment. Some high school or college coursework in environmental science, physics, and chemistry is desired.

- **Water Plant Operator (B)** - 1 - 3 years experience in the operation and maintenance of a water treatment facility. Must have a North Carolina certificate at the Surface Water Operator “B” level or ability to obtain within one year of employment. Some high school or college coursework in environmental science, physics, and chemistry is desired.
- **Water Plant Operator (A)** - 4 - 6 years experience in the operation and maintenance of a water treatment facility. Must have a North Carolina certificate at the Surface Water Operator “A” level or ability to obtain within one year of employment. Some high school or college coursework in environmental science, physics, chemistry, hydrology, water & wastewater engineering, or related study is preferred.

Special Requirements

- Valid North Carolina driver’s license
- Certified in first aid and CPR

FLSA Status: Nonexempt (eligible for overtime or equivalent compensatory time at 1½ times the employee’s regular weekly rate for all hours worked in excess of 40 hours in the City’s official work week and not the employee’s work schedule).

Disclaimer

This classification specification has been designed to indicate the general nature and level of work performed by employees within this classification. It is not designed to contain or be interpreted as a comprehensive inventory of all duties, responsibilities, and qualifications required of employees to perform the job. The Physical Requirements and Working Conditions section of this classification may vary from position to position and a more thorough description of these elements can be found in the employee’s Position Analysis Questionnaire (PAQ). The employer reserves the right to assign or otherwise modify the duties assigned to this classification.

January 2015